

WHAT IS CLAIMED IS:

1. A frame forwarding installation for sending a received frame to a path conforming to a destination address contained in a header of the frame, which has been received from a transmitting terminal, comprising:
an application discriminating unit for referring to a header of a received frame and determining whether an application of a host layer in the transmitting terminal is a real-time application; and

a frame transmitting unit for sending the received frame to a plurality of paths in the direction of a destination if the application is a real-time application.

2. The frame forwarding installation according to claim 1, wherein said application discriminating unit determines that the application of the host layer is a real-time application when a port number of the received frame matches a port number of the real-time application.

3. The frame forwarding installation according to claim 1, further comprising a plurality of interface units;

wherein said frame transmitting unit has an address table which specifies a plurality of interface units in association with a destination address and sends the received frame to a plurality of paths via a plurality of interface units, which conform to a destination address, if the application is a real-time application.

4. The frame forwarding installation according to claim

Sub
A1B

005070-1524560

Sub
A1

1, further comprising a tag attaching unit for attaching a tag, which includes a frame identifier, to a frame;

wherein a frame forwarding installation on the side of a receiving terminal utilizes the frame identifier

5 when determining whether an identical frame has already been received or not.

5. A frame forwarding installation for sending a received frame to a path conforming to a destination address contained in a header of the frame, which has been received from a transmitting terminal, comprising:

an application-type discriminating unit for referring to a header of a received frame and discriminating the type of application of a host layer in the transmitting terminal; and

15 a frame transmitting unit for transmitting the received frame to a plurality of paths in the direction of a destination if the type of an application is a predetermined type.

6. The frame forwarding installation according to claim 20 5, wherein said application-type discriminating unit discriminates the type of application of the host layer from a TCP port number of the received frame.

7. The frame forwarding installation according to claim 5, further comprising a plurality of interface units;

25 wherein said frame transmitting unit has an address table which specifies a plurality of interface units in association with a destination address and sends the received frame to a plurality of paths via a plurality

Sub
A1
B1
005040-454450

Sub
A1
19

Sub
Cat
of interface units, which conform to a destination address, if the type application is the predetermined type.

8. The frame forwarding installation according to claim 5, further comprising a tag attaching unit for attaching a tag, which includes a frame identifier, to a frame;

wherein a frame forwarding installation on the side of a receiving terminal utilizes the frame identifier when determining whether an identical frame has already been received or not.

9. A frame forwarding installation for sending a received frame to a path conforming to a destination address contained in a header of the frame, which has been received from a transmitting terminal, comprising:

an address-match discriminating unit for determining whether a destination address or transmission-source address contained in a header of a received frame matches an address that has already been registered; and

a frame transmitting unit for sending the received frame to a plurality of paths in the direction of a destination if the addresses match.

10. The frame forwarding installation according to claim 9, further comprising a plurality of interface units;

wherein said frame transmitting unit has an address table which specifies a plurality of interface units in association with a destination address and sends the

005040-1520560

Sub
Cat
9/1
Cat

received frame to a plurality of paths via a plurality of interface units, which conform to a destination address, if the addresses match.

11. The frame forwarding installation according to claim 9, further comprising a tag attaching unit for attaching a tag, which includes a frame identifier, to a frame;

wherein a frame forwarding installation on the side of a receiving terminal utilizes the frame identifier when determining whether an identical frame has already been received or not.

12. A frame forwarding installation for receiving a frame, which is directed toward a subordinate destination terminal, from a path and transmitting the frame to the destination terminal, comprising:

a storage unit for storing an identifier of a frame that has been transmitted to the destination terminal; and

a redundant-frame filter for determining whether a frame identifier of a frame newly received from a path has been stored in said storage unit, discarding the received frame if the frame is a frame that has already been received, and transmitting the received frame to the destination terminal and storing the identifier of the received frame in said storage unit if the frame is not a frame that has already been received.

13. The frame forwarding installation according to claim 12, wherein the frame identifier is a sequence

Sub
P
C

005040-492450

number contained in the frame.

14. The frame forwarding installation according to claim 12, wherein the frame identifier is a computational result obtained by subjecting a specific portion of the received frame to a fixed computation.

15. The frame forwarding installation according to claim 12, wherein the frame identifier is a frame identifier contained in a tag that has been attached to a received frame.

10 16. A network having a frame forwarding installation for sending a received frame to a path conforming to a destination address contained in a header of the frame, which has been received from a transmitting terminal, and a frame forwarding installation for receiving a frame, which is directed toward a subordinate destination terminal, from a path and transmitting the frame to the destination terminal, wherein the frame forwarding installation on the side of the transmitting terminal comprises:

20 an application discriminating unit for referring to a header of a received frame and determining whether an application of a host layer in the transmitting terminal is a real-time application; and

25 a frame transmitting unit for sending the received frame to a plurality of paths in the direction of a destination if the application is a real-time application; and

the frame forwarding installation on the side of

005047-1524560

[Handwritten signature and initials]

the destination terminal includes:

a storage unit for storing an identifier of a frame that has been transmitted to the destination terminal; and

5 a redundant-frame filter for determining whether a frame identifier of a newly received frame has been stored in said storage unit, discarding the received frame if the frame is a frame that has already been received, and transmitting the received frame to the
10 destination terminal and storing the identifier of the received frame in said storage unit if the frame is not a frame that has already been received.

17. A network having a frame forwarding installation for sending a received frame to a path conforming to a
15 destination address contained in a header of the frame, which has been received from a transmitting terminal, and a frame forwarding installation for receiving a frame, which is directed toward a subordinate destination terminal, from a path and transmitting the
20 frame to the destination terminal, wherein the frame forwarding installation on the side of the transmitting terminal comprises:

an application-type discriminating unit for referring to a header of a received frame and
25 discriminating the type of application of a host layer in the transmitting terminal; and

a frame transmitting unit for transmitting the received frame to a plurality of paths in the direction

005074754560

Sub
Alt
Cont

of a destination if the type of an application is a predetermined type; and

the frame forwarding installation on the side of the destination terminal comprises:

- 5 a storage unit for storing an identifier of a frame that has been transmitted to the destination terminal; and

- a redundant-frame filter for determining whether a frame identifier of a frame newly received from a path
10 has been stored in said storage unit, discarding the received frame if the frame is a frame that has already been received, and transmitting the received frame to the destination terminal and storing the identifier of the received frame in said storage unit if the frame is
15 not a frame that has already been received.

18. A network having a frame forwarding installation for sending a received frame to a path conforming to a destination address contained in a header of the frame, which has been received from a transmitting terminal,
20 and a frame forwarding installation for receiving a frame, which is directed toward a subordinate destination terminal, from a path and transmitting the frame to the destination terminal, wherein the frame forwarding installation on the side of the transmitting
25 terminal comprises:

 an address-match discriminating unit for determining whether a destination address or transmission-source address contained in a header of a

005040" 754560

received frame matches an address that has already been registered; and

a frame transmitting unit for sending a received frame to a plurality of paths in the direction of a
5 destination if the addresses match; and

the frame forwarding installation on the side of the destination terminal comprises:

a storage unit for storing an identifier of a frame that has been transmitted to the destination terminal;
10 and

a redundant-frame filter for determining whether a frame identifier of a frame newly received from a path has been stored in said storage unit, discarding the received frame if the frame is a frame that has already
15 been received, and transmitting the received frame to the destination terminal and storing the identifier of the received frame in said storage unit if the frame is not a frame that has already been received.

005040 4546460